

ABSTRACT OF THE DISCLOSURE

An aspect of the present invention provides a phase interpolator for adjusting a phase of differential clock signals of a receiver to a phase of a data from a transmitter that includes, an integrator configured to slew edges of differential clock signals adjusted to the phase of the data from the transmitter, a output buffer configured to amplify an output of the integrator, a duty cycle correction circuit configured to feed duty correction signals back to the adjusted differential clock signals, and a controller configured to ensure operations of an amplitude of the output buffer and a data read circuit to adjust the swings and duties of the adjusted differential clock signals.